

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P644181

Luminaire Tested: CRQ4DIP-SR4F0-100D100U940-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644181  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DIP-SR4F0-100D100U940-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

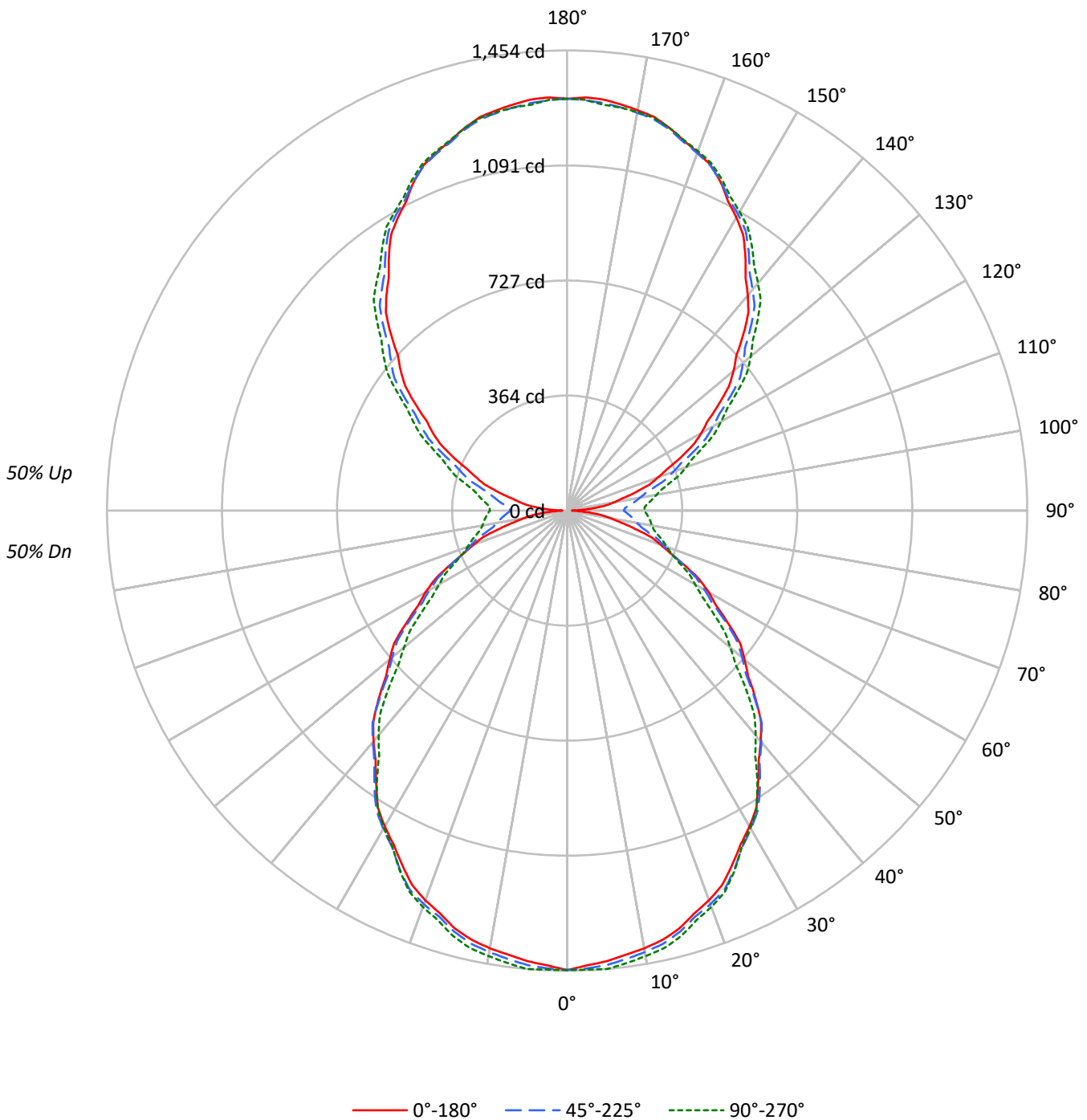
Lumens per Lamp: N/A  
Luminaire Lumens: 7585.3 lumens  
Efficiency: N/A  
Efficacy: 128.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

Input Watts (W): 58.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P644181

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U940-FLLFLL-1DUDD-WW

### Luminous Intensity Polar Plot





TEST NUMBER: P644181

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U940-FLLFLL-1DUDD-WW

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
RC	80									70									50									30									10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0														
RCR																																						
0	107	107	107	107	99	99	99	99	84	84	84	69	69	69	57	57	57	50																				
1	97	93	88	85	89	86	82	79	72	70	67	60	58	57	49	48	46	41																				
2	88	81	74	69	81	75	69	64	63	59	56	53	50	47	43	41	39	34																				
3	81	71	63	57	74	66	59	54	56	51	47	47	43	40	38	35	33	29																				
4	74	63	55	49	68	58	51	46	50	44	40	42	37	34	34	31	29	25																				
5	68	56	48	42	62	52	45	39	44	39	34	37	33	30	31	28	25	22																				
6	62	50	42	36	57	47	39	34	40	34	30	34	29	26	28	25	22	19																				
7	58	45	37	32	53	42	35	30	36	31	26	31	26	23	26	22	20	17																				
8	54	41	33	28	49	38	31	27	33	28	24	28	24	21	24	20	18	15																				
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	22	18	16	14																				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	13																				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	23439	23439	23439
5°	22995	20694	20052
10°	22693	18430	17321
15°	22361	16505	15152
20°	21849	14808	13252
25°	21167	13208	11548
30°	20497	11699	10024
35°	19588	10305	8603
40°	18742	9000	7294
45°	17762	7736	6086
50°	16726	6579	4993
55°	15629	5529	4097
60°	14581	4562	3378
65°	13292	3724	2826
70°	12050	3039	2433
75°	10535	2550	2188
80°	8802	2227	2048
85°	6423	2090	2012

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 17762 cd/sqm



TEST NUMBER: P644181

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U940-FLLFLL-1DUDD-WW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	137.1	1.8
10°-20°	389.0	5.1
20°-30°	574.4	7.6
30°-40°	661.0	8.7
40°-50°	641.5	8.5
50°-60°	540.5	7.1
60°-70°	404.5	5.3
70°-80°	279.9	3.7
80°-90°	199.1	2.6
90°-100°	200.2	2.6
100°-110°	299.7	4.0
110°-120°	434.8	5.7
120°-130°	560.5	7.4
130°-140°	633.2	8.3
140°-150°	625.5	8.2
150°-160°	529.0	7.0
160°-170°	352.2	4.6
170°-180°	123.2	1.6
0°-30°	1100.5	14.5
0°-40°	1761.5	23.2
0°-60°	2943.5	38.8
0°-90°	3827.0	50.5
90°-120°	934.7	12.3
90°-150°	2753.8	36.3
90°-180°	3758.0	49.5
0°-180°	7585.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1452	1452	1452	1452	1452	
5°	1429	1455	1441	1444	1454	136
15°	1368	1390	1377	1382	1392	385
25°	1234	1257	1251	1245	1253	569
35°	1052	1072	1062	1048	1048	659
45°	843	855	838	812	800	650
55°	621	635	610	574	561	557
65°	410	420	405	395	391	408
75°	221	232	266	290	297	237
85°	68	114	201	247	259	72
90°	16	86	179	229	244	14
95°	83	109	196	246	256	82
105°	224	230	285	327	335	238
115°	394	408	441	467	474	391
125°	584	603	630	652	658	523
135°	787	805	820	841	851	607
145°	982	994	1000	1007	1018	613
155°	1146	1153	1148	1149	1156	526
165°	1252	1257	1247	1243	1252	353
175°	1304	1309	1293	1287	1287	124
180°	1301	1301	1301	1301	1301	



TEST NUMBER: P644181

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U940-FLLFLL-1DUDD-WW

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1451.7	1451.7	1451.7	1451.7	1451.7
2.5°	1438.5	1459.4	1447.8	1450.1	1451.7
5°	1429.1	1455.2	1441.4	1443.7	1453.7
7.5°	1416.0	1441.1	1429.3	1430.6	1442.2
10°	1404.5	1428.6	1416.1	1419.1	1429.1
12.5°	1389.7	1414.4	1401.9	1406.0	1416.0
15°	1367.6	1390.3	1377.2	1382.2	1392.2
17.5°	1334.8	1357.8	1345.2	1347.3	1357.3
20°	1310.2	1331.6	1323.9	1322.7	1332.7
22.5°	1280.7	1303.7	1297.6	1291.6	1303.2
25°	1234.3	1257.1	1250.7	1244.8	1252.8
27.5°	1188.4	1208.1	1197.8	1190.2	1196.2
30°	1152.3	1173.0	1161.2	1152.4	1158.5
32.5°	1112.9	1134.8	1121.9	1111.4	1114.2
35°	1051.8	1071.9	1062.1	1047.7	1047.7
37.5°	994.0	1009.8	999.1	980.4	976.0
40°	951.4	968.8	954.8	932.8	926.8
42.5°	907.1	924.5	910.0	885.1	875.9
45°	842.7	854.8	837.9	811.7	799.6
47.5°	776.3	789.8	767.1	737.8	723.4
50°	732.0	746.1	721.8	688.6	672.5
52.5°	689.3	701.3	676.4	640.5	627.2
55°	621.3	634.7	609.7	573.9	561.2
57.5°	557.7	570.7	543.3	515.7	504.7
60°	516.7	528.1	501.7	477.0	467.0
62.5°	470.8	483.3	459.6	443.2	435.4
65°	410.1	420.2	405.4	394.6	391.3
67.5°	353.1	361.2	354.9	356.2	356.6
70°	313.7	321.8	324.9	333.4	334.8
72.5°	277.6	285.2	299.8	314.4	317.4
75°	221.4	232.2	265.6	290.0	296.8
77.5°	172.2	183.6	238.8	271.3	280.4
80°	139.4	158.3	224.1	261.6	271.8
82.5°	109.9	136.3	213.3	255.7	265.9
85°	67.7	114.1	201.2	246.9	259.1
87.5°	32.7	96.9	189.1	237.4	251.3
90°	15.8	86.4	178.8	228.7	244.3
92.5°	41.2	91.4	183.4	232.1	244.9
95°	82.7	109.0	196.4	245.5	255.6
97.5°	122.7	136.4	216.5	261.8	271.8
100°	150.3	159.2	233.2	276.8	286.2
102.5°	179.6	185.3	253.1	294.6	304.5
105°	223.6	230.4	285.1	326.7	334.7
107.5°	272.5	280.3	325.9	364.4	372.1
110°	305.1	316.7	356.3	391.0	399.8



TEST NUMBER: P644181

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U940-FLLFLL-1DUDD-WW

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	341.6	353.1	388.4	419.8	428.5
115°	394.2	407.8	440.6	467.0	473.7
117.5°	449.2	464.7	494.3	518.4	524.9
120°	489.6	504.5	532.5	555.4	560.8
122.5°	526.0	542.6	571.1	594.1	599.5
125°	584.2	603.2	630.5	652.1	657.5
127.5°	643.9	663.1	688.3	710.2	717.2
130°	686.5	704.0	725.9	748.9	757.0
132.5°	725.2	742.7	762.9	786.4	795.6
135°	787.3	804.9	820.5	841.4	850.9
137.5°	847.3	864.3	876.3	892.9	904.8
140°	888.2	903.0	911.7	927.1	937.9
142.5°	925.8	940.6	947.0	960.3	971.1
145°	982.1	994.3	1000.1	1007.2	1018.0
147.5°	1034.9	1046.8	1049.2	1055.5	1062.2
150°	1069.1	1079.9	1080.2	1083.1	1089.9
152.5°	1101.2	1110.9	1107.8	1109.6	1117.5
155°	1146.5	1153.2	1147.9	1149.4	1156.2
157.5°	1182.4	1189.2	1180.7	1183.4	1188.8
160°	1204.5	1211.3	1201.7	1203.2	1208.6
162.5°	1225.5	1230.1	1221.6	1219.9	1227.4
165°	1251.5	1256.9	1247.3	1243.4	1251.5
167.5°	1273.6	1279.0	1266.4	1262.1	1270.3
170°	1284.6	1290.0	1276.3	1271.0	1279.1
172.5°	1294.6	1300.0	1285.2	1278.7	1284.6
175°	1304.0	1309.4	1292.9	1287.4	1287.4
177.5°	1306.7	1310.0	1297.9	1292.5	1299.0
180°	1301.2	1301.2	1301.2	1301.2	1301.2

(END OF REPORT)